

WHAT IS CLAIMED IS:

1           1.       A controller for a motor driven device comprising a motor that draws a  
2 current from a power supply to induce a forward motion in response to a load, said controller  
3 being adapted to be connected to said motor and to detect a motor parameter indicative of the  
4 value of said load, said controller being further adapted to pulse said current "on" and "off" at  
5 a first predetermined cycle frequency when the value of said motor parameter exceeds a first  
6 predetermined value for a first predetermined period, each "on" cycle of said first  
7 predetermined cycle frequency being of sufficient duration to allow said motor to draw  
8 sufficient current in response to said load.

1           2.       A controller according to claim 1, wherein each "on" cycle of the first  
2 predetermined cycle frequency is of sufficient duration to maintain sufficient current to the  
3 motor to normalize the forward motion.

1           3.       A controller according to claim 1, wherein each "off" cycle of the first  
2 predetermined cycle frequency is of sufficient duration to allow the motor to be substantially  
3 released from the forward motion.

1           4.       A controller according to claim 1, wherein the duration of each "on"  
2 cycle or each "off" cycle of the first predetermined cycle frequency ranges from 0.1 second to  
3 13 seconds.

1           5.       A controller according to claim 1, wherein the power supply is a  
2 limited DC source.

1           6.       A controller according to claim 1, wherein the controller is adapted to  
2 pulse the current "on" and "off" for a first predetermined duration.

1           7.       A controller according to claim 1, wherein the controller is adapted to  
2 pulse the current "on" and "off" until the controller is re-set by manually cutting off the  
3 power supply to the motor.

1           8.       A controller according to claim 1, wherein the motor has a reverse  
2 motion and the controller is adapted to release the motor from said forward motion and  
3 induce the motor to said reverse motion when the value of said motor parameter exceeds a

4 second predetermined value for a second predetermined period, said second predetermined  
5 value being greater than said first predetermined value.

1 9. A controller according to claim 8, wherein the controller is adapted to  
2 induce the motor to the reverse motion for a second predetermined duration.

1 10. A controller according to claim 8, wherein the controller is adapted to  
2 induce the motor to the reverse motion until the controller is re-set by manually cutting off  
3 the power supply to the motor.

1 11. A controller according to claim 8, wherein the power supply is a  
2 limited DC source.

1 12. A controller for a motor driven device comprising a motor that draws a  
2 current from a power supply to induce a forward motion in response to a load, said controller  
3 being adapted to be connected to the motor and to detect a motor parameter indicative of the  
4 value of said load, said controller being further adapted to release the motor from said  
5 forward motion and induce the motor to a reverse motion for a predetermined duration when  
6 the value of said motor parameter exceeds a predetermined value for a predetermined period.

1 13. A motor driven device, comprising  
2 a motor that draws a current from a power supply to induce a forward motion  
3 in response to a load, and  
4 a controller connected to the motor and for detecting a motor parameter  
5 indicative of the value of the load and for pulsing the current "on" and "off" at a first  
6 predetermined cycle frequency when the value of the motor parameter exceeds a first  
7 predetermined value for a first predetermined period, each "on" cycle of the first  
8 predetermined cycle frequency being of sufficient duration to allow the motor to draw  
9 sufficient current in response to the load.

1 14. A motor driven device according to claim 13, wherein each "on" cycle  
2 of the first predetermined cycle frequency is of sufficient duration to maintain sufficient  
3 current to the motor to normalize the forward motion.

15. A motor driven device according to claim 13, wherein each "off" cycle of the first predetermined cycle frequency is of sufficient duration to allow the motor to be substantially released from the forward motion.

16. A motor driven device according to claim 13, wherein the motor has a reverse motion and the controller is adapted to release the motor from the forward motion and induce the motor to the reverse motion when the value of the motor parameter exceeds a second predetermined value for a second predetermined period, said second predetermined value being greater than said first predetermined value.

17. A motor driven device according to claim 13, further comprising a battery as source of the power supply.

18. A motor driven device, comprising  
a motor that draws a current from a power supply to induce a forward motion in response to a load, and  
a controller connected to the motor and for detecting a motor parameter indicative of the value of the load and for releasing the motor from the forward motion and inducing the motor to a reverse motion for a predetermined duration when the value of the motor parameter exceeds a predetermined value for a predetermined period.

19. A motor driven device according to claim 13, further comprising a battery as source of the power supply.

20. A method of controlling a motor driven device having a motor that draws a current from a power supply to induce a forward motion in response to a load, said method comprising:  
detecting a motor parameter indicative of the value of the load, and  
pulsing the current "on" and "off" at a first predetermined cycle frequency when the value of said motor parameter exceeds a first predetermined value for a first predetermined period, each "on" cycle of said first predetermined cycle frequency being of sufficient duration to allow the motor to draw sufficient current in response to the load.

1                   21.    A method according to claim 20, wherein each "on" cycle of the first  
2   predetermined cycle frequency is of sufficient duration to maintain sufficient current to the  
3   motor to normalize the forward motion.

1                   22.    A method according to claim 20, wherein each "off" cycle of the first  
2   predetermined cycle frequency is of sufficient duration to allow the motor to be substantially  
3   released from the forward motion.

1                   23.    A method according to claim 20, wherein the duration of each "on"  
2   cycle of the first predetermined cycle frequency ranges from 0.1 second to 13 seconds.

1                   24.    A method according to claim 20, wherein the current is pulsed "on"  
2   and "off" for a first predetermined duration.

1                   25.    A method according to claim 20, wherein the current is pulsed "on"  
2   and "off" until the current is re-set by manually cutting off the power supply to the motor.

1                   26.    A method according to claim 20, wherein the power is supplied from a  
2   limited DC source.